

Oracle Call Interface Technical Forum

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From: Dave.Cattran@sxc.com 31-Jan-03 18:25
Subject: Direct vs TNS/TCP Brokered Connections

Direct vs TNS/TCP Brokered Connections

On AIX, Oracle 9.2: We frequently run our applications on the same node that is running the database instance, and we have found that connecting directly, rather than through TCP/IP gives a fairly significant performance increase. What we find is that if the ORACLE_SID variable is set, and TWO_TASK is not, then a direct connection is possible, however if TWO_TASK is set, then the TCP/IP connection is always used. Similarly, in OCI, if we provide the dbname to OCILogon, or similar calls, then it has the same effect as setting TWO_TASK, that the connection is always through TCP/IP. (i.e. even if neither TWO_TASK nor ORACLE_SID are set)

I have looked through quite a bit of the documentation, and the effect of TWO_TASK and ORACLE_SID, and how the specific connection mechanism is chosen is not clear to me. I think it is an unusual situation to run the application on the same node as the database instance.

Our current solution is to leave the dbname in the OCILogon call blank, and rely on the user to set ORACLE_SID, and leave TWO_TASK unset, however this doesn't suit all of our applications, so I would like to know if there is a good way to get the same behaviour via changes to the TNSNAMES.ORA setup, or some option or call under OCI that I'm not aware of.

From: Oracle, [James Fedynich](#) 03-Feb-03 17:56
Subject: Re : Direct vs TNS/TCP Brokered Connections

Dave,

I am not sure what you mean by "would like to know if there is a good way to get the same behaviour via changes to the TNSNAMES.ORA setup".

If you are looking to use the same connect string in the application and have the users modify the connection by changing the TNSNAMES.ORA file (instead of environment variables) then yes it can be done.

James Fedynich
Oracle Support

From: Dave.Cattran@sxc.com 04-Feb-03 22:29
Subject: Re : Direct vs TNS/TCP Brokered Connections

The behaviour that I want is that a local shared-memory server is started up, as this seems to be a more efficient connection. For example, if I start up sqlplus like: sqlplus blah/blah with no servername specified, if I have ORACLE_SID set to a local database, then a shadow server process will be started with (DESCRIPTION=(LOCAL=YES)(PROTOCOL=beq)), and I believe it is using a shared memory transport between the client library and this server. If I start sqlplus on the same machine with the servername after the @ sign, then I believe it is going to use the TCP/IP transport, which is less efficient.

So, my question is twofold:

a) Is there a way to set up TNSNAMES.ORA or something else external to indicate that a particular database is local to the node, and therefore start up one of these local processes, and use the shared memory transport? If the solution works for sqlplus, then I think it can work for my applications as well.

b) If the answer to (a) is no, is there a clever way to control this from OCI, or is there some coordination required between what is set up in TNSNAMES.ORA and how the OCI connection is prepared?

My DBA's tell me that the overhead saved through the local connection is significant, so it's worthwhile for spend some cycles on this.

Thanks,
Dave

From: Oracle, James Fedynich 05-Feb-03 14:13
Subject: Re : Re : Direct vs TNS/TCP Brokered Connections

Dave,

Have you tried passing a null value for the connect string within OCI? This should cause the application to make the local connection as it does with SQL*Plus.

James Fedynich
Oracle Support

From: Dave.Catran@sxc.com 05-Feb-03 16:37
Subject: Re : Direct vs TNS/TCP Brokered Connections

Right, so that works, and you can make the direct connection by setting ORACLE_SID outside the application, and leaving the connect string blank. This solution feels a little bit weak, though. It seems to me that there should either be some way to configure the TNSNAMES.ORA to enable this type of connection, on the same node, while a different configuration (on a different node) would provide a TCP/IP connection. That way, the application can remain the same, regardless of whether it is on a local or remote node, but the connection will be optimized.

My more concrete problem is that I have several applications which act as a bridge between databases, and therefore make simultaneous connections to more than one database instance - although all of the instances may be hosted on the same node. In this case, setting the ORACLE_SID and leaving the connect string blank won't work. I have considered setting the environment variables from within the program, before doing the various connects, and seeing if

that would work, but it seems like a hack, and I was hoping for a cleaner solution.

Thanks,
Dave Cattran

From: Oracle, James Fedynich 06-Feb-03 12:33

Subject: Re : Re : Direct vs TNS/TCP Brokered Connections

Dave,

I believe I now understand what you are trying to do and believe Note 132764.1 (TNSNAMES.ORA Bequeath Example) is more in the lines of what it is you are attempting.

Review the Note and try getting it to work via SQL*Plus. If you have difficulty getting it to function then post to the Networking forum. Once you have it working via SQL*Plus then you can attempt from within the OCI program.

Hope This Helps
James Fedynich
Oracle Support

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